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For Your Interest

J. C. Herman
Iowa State University

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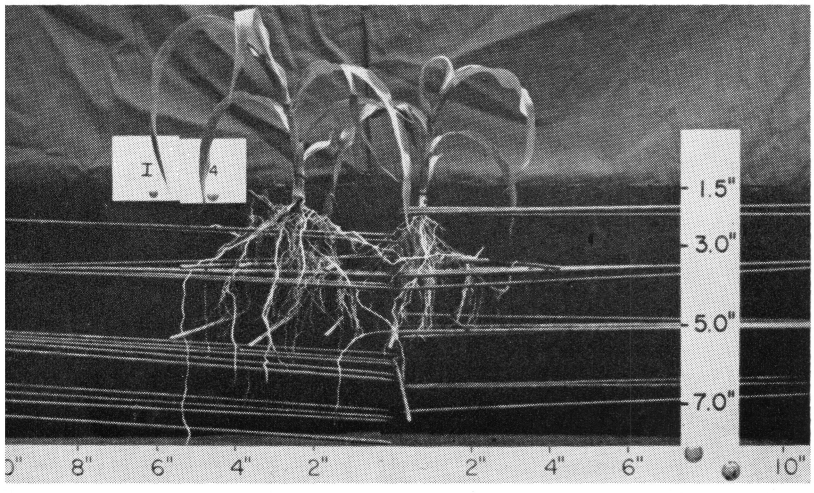
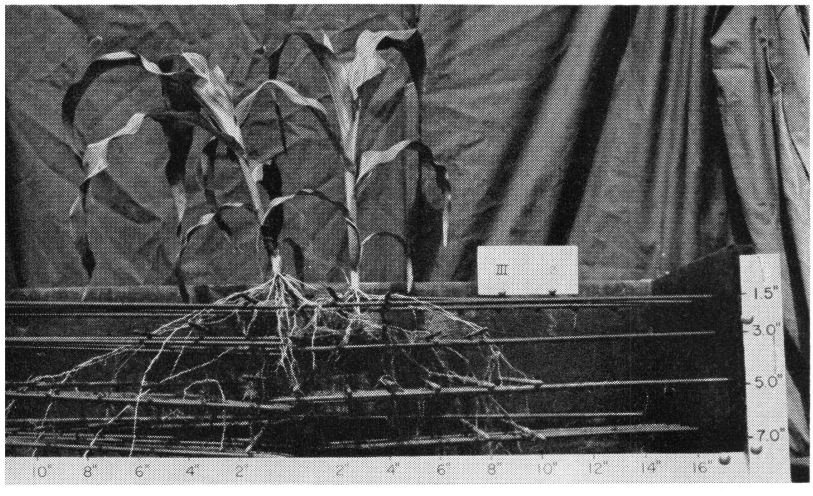
Study Better Ways To Make Fertilizer Recommendations

Some of the Experiment Station's current studies are aimed at improving the relationships between chemical soil tests and crop yields obtained from fertilizer applications. These studies will permit a better interpretation of soil test results and more specific fertilizer and lime recommendations, says J. J. Hanway of the Department of Agronomy.

Subsoil samples from sites where fertilizer experiments have been conducted are being analyzed in the Soil Testing Laboratory at Iowa State. This enables researchers to study the availability of nutrients in subsoil layers as a means of improving the relationship between crop responses and fertilizer recommendations. Additional samples from many different soil profiles are being tested to find out more about the nutrient availability in the subsoils of various soil types.

Other factors also are being evaluated in addition to the chemical tests on samples of surface soils. The nature and extent of the plant root system influences crop responses to fertilizers. Thus, field and greenhouse experiments are in progress to gain information on the effect of temperature, aeration, seed placement and soil texture on the development of the root systems of young corn plants.





LEFT: These two photos show differences in corn root system development 22 days after emergence in two different soil types. RIGHT: A flame photometer (above) is used in chemical tests of soil samples for potassium, and a colorimeter (below) is used in testing soil samples for phosphorus.